

Human Factors

Center of Excellence for General Aviation

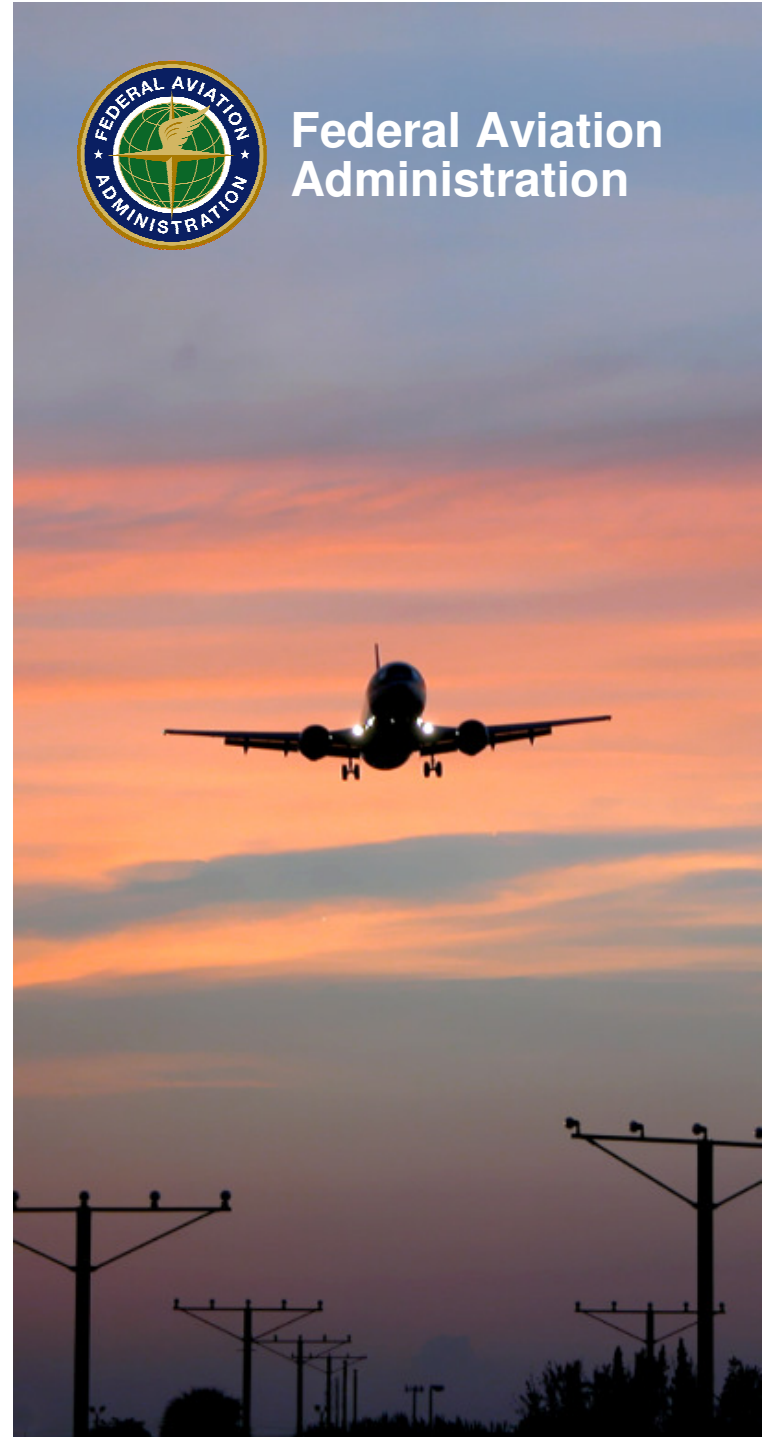
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By: Dan Herschler,
Human Factors Research and
Engineering Division, ANG-C1

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Federal Aviation
Administration



COE-GA Human Factors – Organizational Role and Responsibilities

- **Organization**
 - NextGen, Advanced Concepts and Technology
 - Human Factors Research & Engineering Division (ANG-C1)
- **Role**
 - Program management for human factors RE&D.
- **Responsibilities**
 - Develop and execute human factors research program to develop human factors technical information and meet sponsor needs:
 - Support rulemaking and recommend regulatory requirements, guidance, and job aids for Aircraft Certification Service (typically AIR-120, 130) and Flight Standards Service (typically AFS-410, 430, 470).
 - Provide guidance and recommendations to NextGen program managers (e.g., data communications program)
 - Coordinate research activities among multiple research providers and partner organizations
 - Volpe National Transportation System Center
 - Civil Aerospace Medical Institute (CAMI); Research, Development, and Human Factors Laboratory (RDHFL)
 - NASA
 - Air Force Research Laboratory
 - Universities
 - Aerospace Industry



COE-GA – Past Research

- Displays and Controls Human Factors Research for GA
 - Synthetic Vision for Primary and Multifunction Flight Displays
 - Human Factors for Advanced Autopilots & Automation Technologies in Small Airplanes
 - Weather in the Cockpit: Very Light Jets
- Human Factors Research on GA Pilot Workload, Training, and Safety
 - Very Light Jet (VLJ) Single-Pilot Workload Assessment
 - Pilot Knowledge and Skill Requirements for Part 23 Jets
 - GA Private Pilot Single Engine Land: Assessment of Instruction and Practical Test Experiences
 - Redesigning Weather-Related Training and Testing of General Aviation Pilots
 - Exploring Relations between GA Pilots' Examiner Type, School Type, and Subsequent Accidents



COE-GA – Past Research (continued)

- **Development and testing of aviation safety inspector training***
 - Multiengine (Light Twin) Performance and Instrument Refresher course
 - General Aviation Operations Inspector Indoctrination course
 - Technically Advanced Aircraft Qualification course
 - Principles of Structural Composites for Airworthiness Inspectors course

* Funded by Flight Standards Training Division (AFS-500) and completed through the COE-GA



COE-GA Human Factors – Potential Research

- **Research that improves task performance and training for aircrew, inspectors, and maintenance technicians, for example:**
 - Evaluation of single pilot operations to identify operating limitations and recommended best practices for safe operation in closely-spaced parallel operations.
- **Develop and apply error management strategies to prevent flight crew and aircraft maintenance errors**
- **Conduct research to develop recommendations for regulatory guidance and job aids for regulatory personnel to use when:**
 - Certifying new aircraft or new and modified equipment designs
 - Approving new and modified operations (in regulations and OpSpecs)

